



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO.  |
|---|-------------|----------------------|---------------------|-------------------|
| 10/574,349  | 04/03/2006  | Katsumi Kozu         | P29569              | 9240              |
| 52123   | 7590        | 02/23/2009           | EXAMINER            |                   |
| GREENBLUM & BERNSTEIN, P.L.C.<br>1950 ROLAND CLARKE PLACE<br>RESTON, VA 20191 |             |                      |                     | DAVIS, PATRICIA A |
| ART UNIT  |             | PAPER NUMBER         |                     |                   |
|   |             | 4111                 |                     |                   |
| NOTIFICATION DATE   |             |                      | DELIVERY MODE       |                   |
| 02/23/2009  |             |                      | ELECTRONIC          |                   |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com  
pto@gbpatent.com

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/574,349             | KOZU ET AL.         |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | PATRICIA DAVIS         | 4111                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 4/3/2006.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-6 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-6 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

|  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/3/2006; 3/28/2008</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION*****Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

5       The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 3-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which  
10      applicant regards as the invention.

Regarding claim 1, it is unclear what the limitation "frame" is being referred to in line 11 because it is not known whether this is the previously defined frame or a different one.

Regarding claims 3 and 6, it is unclear what the limitation "frame" is being referred to in the claims. There is a lack of antecedent basis for this limitation for the plurality of frames in the claim. It is suggested to amend the claims to clearly define which frame is being discussed in the claims.  
15

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all  
20      obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.  
25      Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamazaki et al. (JP 11-354089A) (hereinafter “Hamazaki”) in view of Masumoto et al. (U.S. Patent No. 6,861,821) (hereinafter “Masumoto”).

Regarding claim 1, Hamazaki teaches a battery pack comprising: a plurality of rechargeable batteries (nickel-metal hydride rechargeable batteries) in a battery case (case 2) and sealing an open end of the case with a sealing plate, an electrode terminal (3) being provided in the sealing plate; a circuit substrate (circuit board 5) formed to manage all of the rechargeable batteries; and a pack case (case 2) for accommodating the rechargeable batteries and the circuit substrate (5), wherein: the plurality of rechargeable batteries are held by a frame (see fig. 1) in such an arrangement that the batteries are oriented in the same direction on their sealing-plate side. The circuit board (5) is mounted on the case (2) in a way that the circuit board (5) position on the sealing plate side of the plurality of the batteries.(see pars. 0013-0014; figs. 1 and 2).

Although, Hamazaki does not specifically teach a liquid electrolyte in the battery case it is inherent that the individual nickel metal hydride cell inherently comprises a liquid electrolyte and electrode assembly in a battery case.

Hamazaki does not teach the case accommodating a liquid electrolyte in the battery case and the sealing open end of the case with a sealing plate or that a resin mold is provided for covering a necessary surface of the circuit substrate with a resin after the circuit substrate is electrically connected to the rechargeable batteries and to the input and output terminals or that the batteries are in a prismatic shape.

The applicant is advised that the Supreme Court recently clarified that a claim can be proved obvious merely by showing that the combination of known elements was obvious to try. In this regard, the Supreme Court explained that, “[w]hen there is a design need or market pressure to solve a problem and there are a finite number of

5 identified, predictable solutions, a person of ordinary skill in the art has a good reason to pursue the known options within his or her technical grasp.” An obviousness determination is not the result of a rigid formula disassociated from the consideration of the facts of the case. Indeed, the common sense of those skilled in the art demonstrates why some combinations would have been obvious where others would not. The

10 combination of familiar elements is likely to be obvious when it does no more than yield predictable results. See *KSR Int'l v. Teleflex Inc.*, 127 Sup. Ct. 1727, 1742, 82 USPQ2d 1385, 1397 (2007) (see MPEP § 2143).

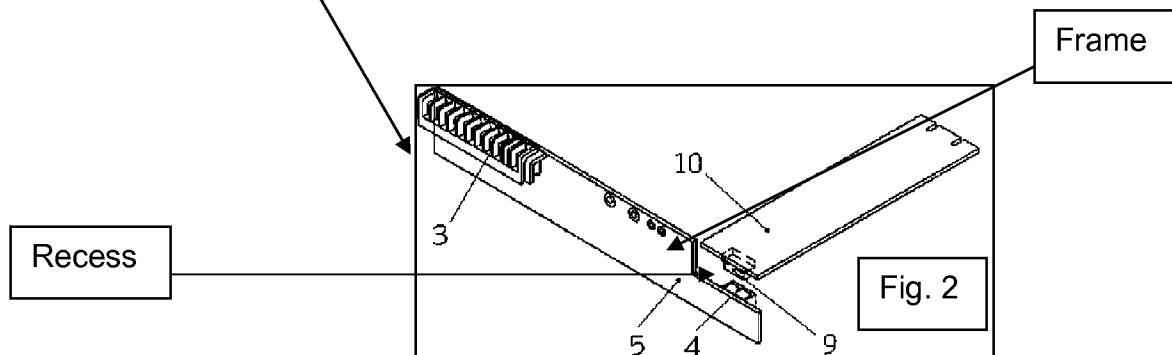
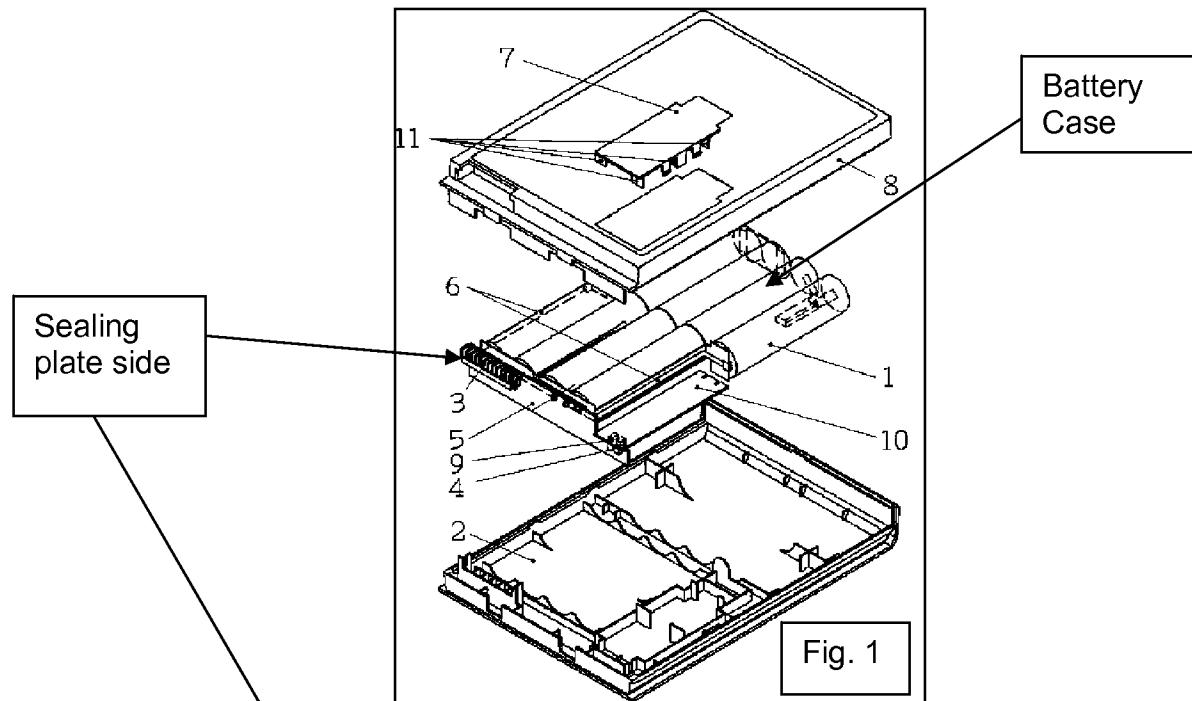
In that regard, Masumoto teaches a resin is filled between the battery (101) and the terminal plate (102) after the PTC element (circuit substrate 110) is electrically connected to the positive and negative terminals of the battery, which covers the necessary surface of the circuit substrate to make them integral with one another.

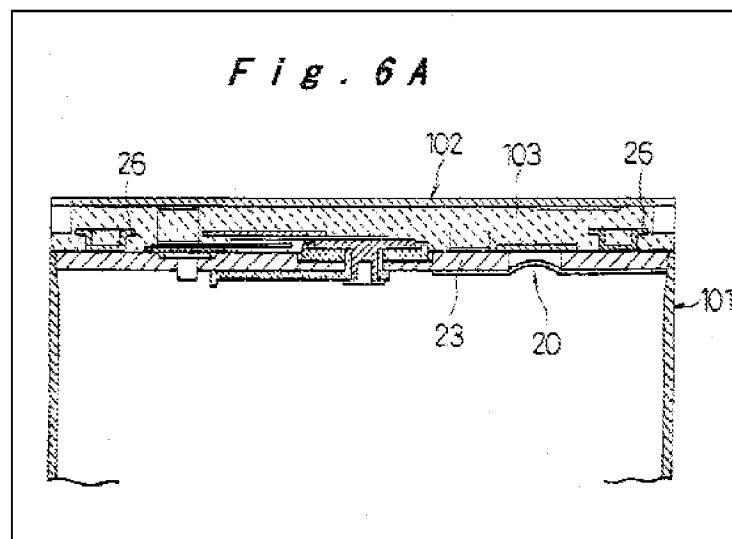
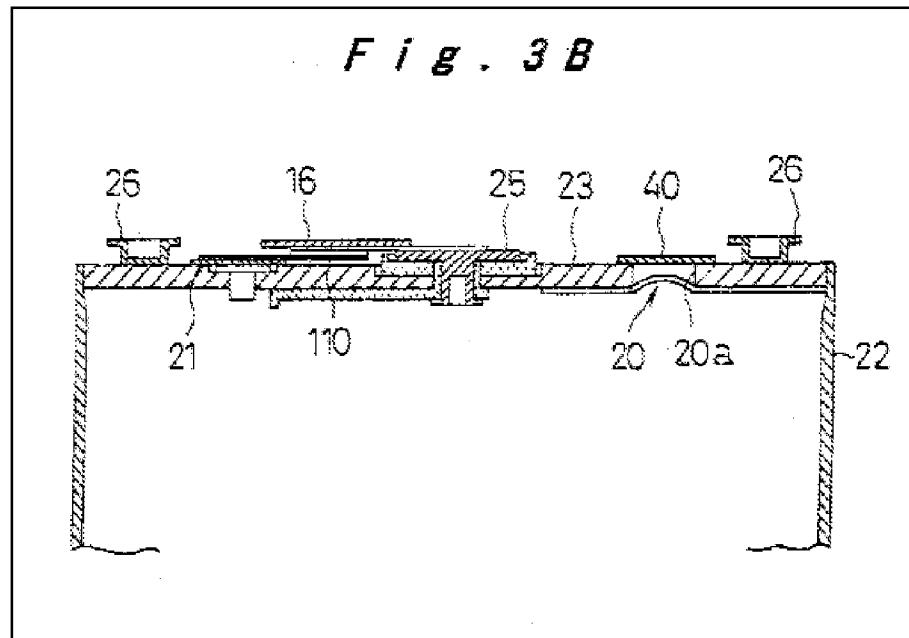
15 Masumoto also teaches that the batteries are in a prismatic shape (see col. 10, lines 14-16 and 32-55 and col. 11, lines 39-61; figs. 3B and 6A).

Therefore, it would be obvious to one with ordinary skill in the art to combine the

20 battery pack to have prismatic batteries and to have a sealing plate that includes a resin that covers the necessary surface of the circuit substrate to make the battery and the

terminal plate integral with each other and to exhibit excellent bonding strength, electrical insulation, chemical resistance, and to adverse any thermal effects.





Regarding claim 2, Hamazaki teaches a battery pack comprising a plurality of  
5 rechargeable batteries (nickel-metal hydride rechargeable batteries) in a battery case  
and a sealing an open end of the case with a sealing plate, an electrode terminal (3)  
being provided in the sealing plate; a circuit substrate (5) formed with a battery

Art Unit: 4111

management circuit for managing the operating state of each rechargeable battery; and a pack case (case 2) for accommodating the rechargeable batteries and the circuit substrate (5), wherein: the plurality of the rechargeable batteries are held by a frame in such an arrangement that the batteries are oriented in the same direction on their

5 sealing-plate side; the plurality of rechargeable batteries are connected in series and/or parallel by joining the connection plate (10). Also, the connection plate (10) has a connection projection (9) inserted into the connection hole (4) of the circuit substrate (see par. 0013-0014; figs. 1 and 2).

Regarding claim 4, Hamazaki and Masumoto teach all of the positively recited  
10 elements of claim 1.

Hamazaki does not specifically teach that the battery pack has a resin mold that covers a surface on which electronic components are mounted, including electrically conductive parts.

However, Masumoto teaches that the resin mold covers all of the electronic  
15 components between the battery (plain battery 101) and the terminal plate (102) on the surface where the electronic components are mounted to be integral with one another to exhibit excellent bonding strength, electrical insulation, chemical resistance, and to adverse any adverse thermal effects (see col. 10, lines 32-55 and col. 11, lines 39-61; fig 6A). The combination of familiar elements is likely to be obvious when it does no  
20 more than yield predictable results. See *KSR Int'l v. Teleflex Inc.*, 127 Sup. Ct. 1727, 1742, 82 USPQ2d 1385, 1397 (2007) (see MPEP § 2143).

Art Unit: 4111

Therefore, it would have been obvious to one with ordinary skill in the art to combine the battery pack to have a resin that covers the necessary surface of the circuit substrate to make the battery and the terminal plate integral with one another to exhibit excellent bonding strength, electrical insulation, chemical resistance, and to adverse

5 any adverse thermal effects.

Regarding claim 5, Hamazaki and Masumoto teach all of the positively recited elements of claim 1.

Hamazaki teaches a battery pack with a recess located in the frame on the sealing side of the plate (see fig. 2).

10 Hamazaki does not specifically teach a resin mold is formed by filling in a recess in which a circuit substrate is accommodated to cover the circuit substrate.

Masumoto teaches the battery, wherein the resin mold (103) is formed by filling a resin in a recess located in a frame between the battery and the terminal plate (102) in which the circuit substrate (3) is accommodated to cover the circuit substrate (3) on the

15 side of the sealing plate, and the resin being used to make the parts integral to one another to exhibit excellent bonding strength, electrical insulation, chemical resistance, and to adverse any adverse thermal effects (see col. 11, lines 39-61; fig. 6A and 11A).

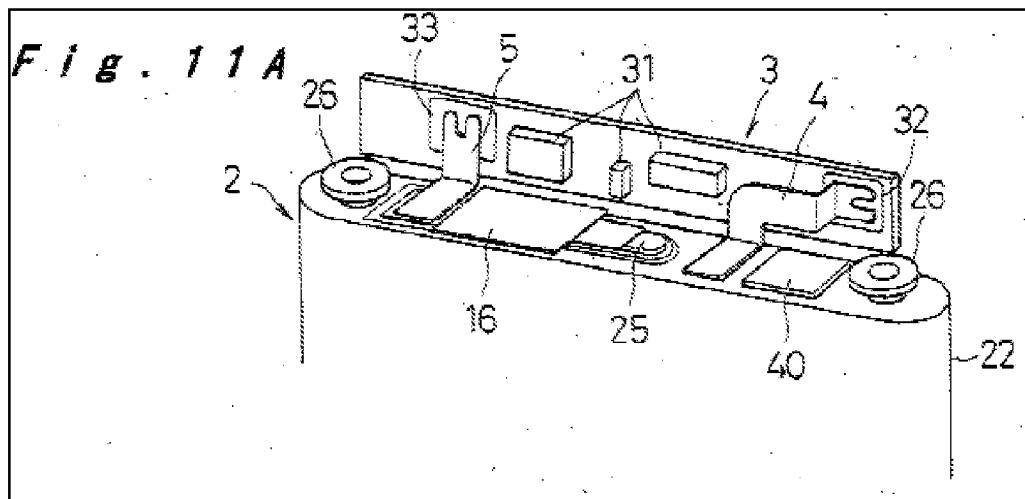
The combination of familiar elements is likely to be obvious when it does no more than yield predictable results. See *KSR Int'l v. Teleflex Inc.*, 127 Sup. Ct. 1727, 1742, 82

20 USPQ2d 1385, 1397 (2007) (see MPEP § 2143).

Therefore it would be obvious to one with ordinary skill in the art to combine the recess located in the battery pack to have a resin that covers the entire recess in which

Art Unit: 4111

the circuit substrate is accommodated to make the parts integral to one another to exhibit excellent bonding strength, electrical insulation, chemical resistance, and to adverse any adverse thermal effects.



5       Claims 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamazaki in view of Masumoto in further view of Hamada et al. (U.S. Patent Pub. No. 2004/0058233) (hereinafter "Hamada").

Regarding claims 3, Hamazaki and Masumoto teach all of the positively recited elements of claim 1.

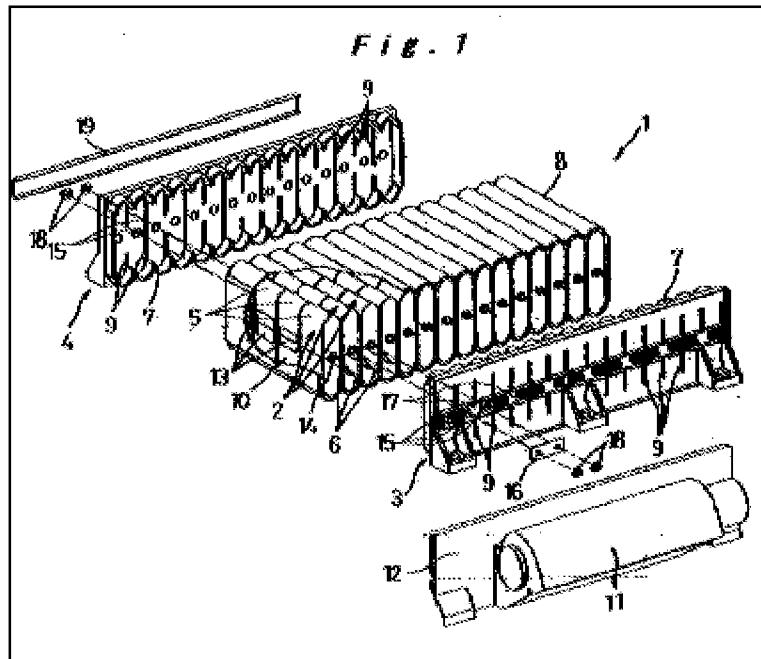
10       Hamazaki teaches the battery pack, wherein the rechargeable batteries are held by the frame in a parallel spaced relationship (see fig. 1).

Hamazaki does not teach that the rechargeable batteries are of a flat prismatic shape, where the largest flat surfaces are directed opposite of each other.

However, Hamada teaches the batteries having a flat prismatic shape, where the 15 largest flat surfaces are being directed opposite each other (see pars. 0008, 00029-0030; fig. 1). The change in form or shape, without any new or unexpected results, is

an obvious engineering design. See *In re Dailey*, 149 USPQ 47 (CCPA 1976) (see MPEP § 2144.04).

Therefore, it would be obvious to one with ordinary skill in the art to change the shape of the rechargeable batteries if it did nothing more than fit the battery pack and  
5 structure.



Regarding claim 6, Hamazaki teaches all of the positively recited elements of  
claim 2.

10 Hamazaki teaches the battery pack, wherein the rechargeable batteries are held by the frame in a parallel spaced relationship (see fig. 1).

Hamazaki does not teach that the rechargeable batteries are of a flat prismatic shape, where the largest flat surfaces are directed opposite of each other.

However, Hamada teaches the batteries having a flat prismatic shape, where the largest flat surfaces are being directed opposite each other (see pars. 0008, 00029-0030; fig. 1). The change in form or shape, without any new or unexpected results, is an obvious engineering design. See *In re Dailey*, 149 USPQ 47 (CCPA 1976) (see 5 MPEP § 2144.04).

Therefore, it would be obvious to one with ordinary skill in the art to change the shape of the rechargeable batteries if it did nothing more than fit the battery pack and structure.

***Conclusion***

10 Any inquiry concerning this communication or earlier communications from the examiner should be directed to PATRICIA DAVIS whose telephone number is (571)270-7868. The examiner can normally be reached on 7:30am-5pm EST. Monday-Friday, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's 15 supervisor, Brian Sines can be reached on 571-272-1263. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the 20 Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

5

P.D.

/Jonathan Crepeau/  
Primary Examiner, Art Unit 1795